

WHAT IS CLAIMED IS:

1. An active matrix liquid crystal display (LCD) device comprising first and second transparent substrates, liquid crystal sandwiched between said first transparent substrate and said second transparent substrate, said first transparent substrate including a plurality of pixel elements arranged in a matrix, each of said pixel elements defining a pixel area for image display and having a thin film transistor (TFT) and a pixel electrode connected to a drain of said TFT, a plurality of scanning lines each connected to gates of said TFTs in a corresponding row of said pixel elements, a plurality of signal lines each connected to a source of said TFTs in a corresponding column of said pixel elements, and a common electrode having an electrode portion disposed for each of said pixel elements in association with said pixel electrode, one of said first transparent substrate and said second transparent substrate including a black matrix for covering an area other than said pixel area as viewed in a first direction perpendicular to said first and second substrates, said electrode portion of said common electrode encircling said pixel area as viewed in said first direction.
2. The active matrix LCD device as defined in claim 1, wherein said black matrix overlaps substantially all of said scanning lines and said signal lines as viewed in said first direction.

3. The active matrix LCD device as defined in claim 1, wherein said black matrix overlaps substantially all of said scanning lines and first portions of said signal lines as viewed in said first direction.

4. The active matrix LCD device as defined in claim 3; wherein said common electrode overlaps substantially all of portions other than said first portions of said signal lines.

5. The active matrix LCD device as defined in claim 1, said black matrix overlaps an outer periphery of said electrode portion of said common electrode encircling said pixel area and exposes an inner periphery of said electrode portion, as viewed in said first direction.

6. The active matrix LCD device as defined in claim 1, wherein said black matrix is electrically connected to said common electrode.

7. The active matrix LCD as defined in claim 1, wherein said electrode portion further includes a central stripe in said pixel area.

8. An active matrix liquid crystal display (LCD) device comprising first and second transparent substrates, liquid crystal

SEARCHED
INDEXED
SERIALIZED
FILED
APR 20 1998
U.S. DEPT. OF COMMERCE
NATIONAL TECH. INFORMATION
SERVICES
BETHESDA, MD 20889

sandwiched between said first transparent substrate and said second transparent substrate, said first transparent substrate including a plurality of pixel elements arranged in a matrix, each of said pixel elements defining a pixel area for image-display and having a thin film transistor (TFT) and a pixel electrode connected to a drain of said TFT, a plurality of scanning lines each connected to gates of said TFTs in a corresponding row of said pixel elements, a plurality of signal lines each connected to a source of said TFTs in a corresponding column of said pixel elements, and a common electrode having an electrode portion disposed for each of said pixel elements in association with said pixel electrode, one of said first transparent substrate and said second transparent substrate including a black matrix for covering an area other than said pixel area as viewed in a first direction perpendicular to said first and second substrates, said black matrix being electrically connected to said common electrode.

CONFIDENTIAL - THIS DOCUMENT CONTAINS TRADE SECRET INFORMATION OF XEROX CORPORATION. IT IS UNAUTHORIZED TO COPY OR DISCLOSE THIS DOCUMENT EXCEPT IN ACCORDANCE WITH THE AUTHORIZED USE POLICY OF XEROX CORPORATION.